

CLAIMS

1. A print control apparatus for controlling a printer engine that prints a content based on a file indicating the content to be printed, comprising:
 - 5 a storage unit that has an area for storing the file;
 - a writing unit operable to write the file in said storage unit;

and

 - 10 a file management unit operable to hierarchize files to be written by said writing unit in said storage unit, operable to manage files in a hierarchical form, and operable to search the file based on a resulting hierarchy.
2. The print control apparatus according to Claim 1, further comprising:
 - 15 an obtainment unit operable to obtain print data indicating the content to be printed from outside said print control apparatus;
 - and
 - 20 a division unit operable to divide the print data obtained by said obtainment unit into the files,

wherein said writing unit is operable to write the files divided by said division unit in said storage unit.
3. The print control apparatus according to Claim 2,
wherein said division unit is operable to divide the print data
25 on a page-by-page basis and operable to generate a file including information equivalent to each page.
4. The print control apparatus according to Claim 2,
wherein said division unit is operable to divide the print data
30 on an area-by-area basis, the area being smaller than a page, and operable to generate a file including information equivalent to each page.

5. The print control apparatus according to Claim 2,
wherein said file management unit is operable to divide the
files to be written in said storage unit into two layers in a hierarchy
and operable to manage the files in a hierarchical form by setting
5 one storage area for one print data in said storage unit and by
causing said writing unit to write, in the storage area, the files
generated from the print data.

6. The print control apparatus according to Claim 2,
10 wherein said file management unit is operable to divide the
files to be written in said storage unit into three layers in the
hierarchy and operable to manage the files in a hierarchical form by
setting one storage area for one print data in said storage unit and
sub-storage areas in the storage area, and by causing said writing
15 unit to write the files generated from the print data in the
sub-storage areas in the storage area.

7. The print control apparatus according to Claim 2,
wherein said file management unit is operable to set an
20 upper limit on the number of print data to be written in said storage
unit as the files and operable to prohibit said writing unit from
writing print data over the upper limit.

8. The print control apparatus according to Claim 2,
25 wherein said file management unit is operable to selectively
use, depending on print data obtained by said obtainment unit, a
first management form for hierarchizing and managing the files,
and a second management form for hierarchizing and managing
the files in a way different from the first management form.

30 9. The print control apparatus according to Claim 8,
wherein said file management unit is operable to selectively

use the first management form and the second management form depending on the number of files composing the print data obtained by said obtainment unit.

5 10. The print control apparatus according to Claim 9,
wherein said file management unit is operable to selectively
use the first management form for dividing the files into two layers
in a hierarchy and the second management form for dividing the
files into three layers in a hierarchy.

10 11. The print control apparatus according to Claim 2,
wherein said file management unit is operable to set, in said
storage unit, a storage area in which files under a predetermined
upper limit are written, and

15 said file management unit is operable to newly set the
storage area, and operable to cause said writing unit to write said
files in the new storage area in the case where the number of files
written in the storage area reaches the upper limit.

20 12. The print control apparatus according to Claim 2,
wherein said file management unit is operable to divide the
files to be written in said storage unit into two layers in the
hierarchy and operable to manage the files in a hierarchical form by
setting a storage area for each user in said storage unit and by
25 causing said writing unit to write the file in the storage area of a
user who generated the file.

13. A print control method for controlling a printer engine that
prints a content based on a file indicating the content to be printed,
30 comprising:

 a hierarchization step of hierarchizing files, one of which
 being the file, and writing files in a memory; and

a search step of searching the file based on a resulting hierarchy.

14. The print control method according to Claim 13, further
5 comprising:

an obtainment step of obtaining print data indicating the content to be printed from outside the print control apparatus; and

a division step of dividing the print data obtained in said obtainment step into the files,

10 wherein in said hierarchization step, the files divided in said division step are written in the memory.

15. The print control method according to Claim 14,

wherein, in said division step, the print data is divided on a 15 page-by-page basis and a file including information equivalent to each page is generated.

16. The print control method according to Claim 14,

wherein, in said hierarchization step, files to be written in 20 the memory are divided into two layers in a hierarchy by one storage area for one print data being set in the memory and the files generated from the print data being written in the storage area.

25 17. The print control method according to Claim 14,

wherein, in the hierarchization step, files to be written in the memory are divided into three layers in the hierarchy by one storage area for one print data being set in the memory and sub-storage areas being set in one storage area, and the files 30 generated from the print data being written in the respectively corresponding sub-storage areas in the storage area.

18. The print control method according to Claim 14, wherein, in said hierarchization step, an upper limit on the number of print data to be written in the memory as files is set and writing print data over the upper limit is prohibited.

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19. The print control method according to Claim 14, wherein, in said hierarchization step, a storage area in which files under a predetermined upper limit are written is set in the memory, and in the case where the number of files written in the 10 storage area reaches the upper limit, the storage area is newly set and writing in the new storage area is performed.

20. A program for controlling a printer engine that prints a content based on a file indicating the content to be printed, the 15 program causing a computer to execute:

 a hierarchization step of hierarchizing files, one of which being the file, and writing the files in a memory; and

 a search step of searching the file based on a resulting hierarchy.

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21. The program according to Claim 20, further comprising: an obtainment step of obtaining print data indicating the content to be printed from outside the print control apparatus; and a division step of dividing the print data obtained in said 25 obtainment step into files,

 wherein, in said hierarchization step, the files divided in said division step are written in the memory.

22. The program according to Claim 21, 30 wherein, in said division step, the print data is divided on a page-by-page basis and a file including information equivalent to each page is generated.

23. The program according to Claim 21,
wherein, in said hierarchization step, files to be written in
the memory are divided into two layers in a hierarchy by one
storage area for one print data being set in the memory and the
5 files generated from the print data being written in the storage
area.

24. The program according to Claim 21,
wherein, in the hierarchization step, files to be written in the
10 memory are divided into three layers in a hierarchy by one storage
area for one print data being set in the memory and sub-storage
areas being set in one storage area, and the files generated from
the print data being written in the respectively corresponding
sub-storage areas in the storage area.

15 25. A printer comprising:
a printer engine for printing a content based on a file
indicating the content to be printed; and
a print control apparatus for controlling the printer engine,
20 wherein said print control apparatus includes:
a storage unit that has an area for storing the file;
a writing unit operable to write the file in said storage unit;
and
a file management unit operable to hierarchize files to be
25 written in said storage unit by said writing unit and operable to
manage the files in a hierarchical form, and operable to search the
file based on a resulting hierarchy.

30 26. The printer according to Claim 25,
wherein said print control apparatus further includes:
an obtainment unit operable to obtain print data indicating
the content to be printed from outside said print control apparatus;

and

 a division unit operable to divide the print data obtained by
 said obtainment unit into the files,

 said writing unit writes the files divided by said division unit
5 in said storage unit.

27. The printer according to Claim 26,

 wherein said division unit is operable to divide the print data
 on a page-by-page basis and operable to generate a file including
10 information equivalent to each page.

28. The printer according to Claim 26,

 wherein said file management unit is operable to divide the
 files to be written in said storage unit into two layers in a hierarchy
15 and operable to manage the files in a hierarchical form by setting
 one storage area for one print data in said storage unit and by
 causing said writing unit to write files generated from the print
 data in the storage area.

20 29. The printer according to Claim 26,

 wherein said file management unit is operable to divide the
 files to be written in said storage unit into three layers in a
 hierarchy and operable to manage the files in a hierarchical form by
 setting one storage area for one print data in said storage unit and
25 sub-storage areas in the storage area and by causing said writing
 unit to write the files generated from the print data in the
 sub-storage areas in the storage area.